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1	255	(514/255.06).CCLS.	USPAT; US-PGPUB	2003/09/05 12:18
2	154	(544/407).CCLS.	USPAT; US-PGPUB	2003/09/05 12:18
3	376	((514/255.06).CCLS.) ((544/407).CCLS.)	USPAT; US-PGPUB	2003/09/05 12:18
4	47	((514/255.06).CCLS.) ((544/407).CCLS.)) AND ("sodium channel" OR mucos\$)	USPAT; US-PGPUB	2003/09/05 12:20
5	47	((514/255.06).CCLS.) ((544/407).CCLS.)) AND ("sodium channel" OR mucos\$ OR "chloride channel")	USPAT; US-PGPUB	2003/09/05 12:20

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Surgery II Service, Hospital Universitario San Carlos, Universidad Complutense, Madrid, Spain. jmayol@hcsc.insalud.es

AIMS: Transcellular chloride transport is the key event underlying epithelial hydration in the intestine. Little is known about the role of protein tyrosine phosphatases in the regulation of basal and stimulated secretion in human intestinal epithelia. The aim of our study was to investigate the effects of the protein tyrosine phosphatase inhibitor sodium orthovanadate on vectorial chloride transport in native human colon. **METHODS:** An electrophysiological technique was used to measure changes in short-circuit current via a dual voltage/current clamp in native human colon mucosa and in T84 (ATCC) human intestinal cells mounted in modified Ussing chambers. **RESULTS:** Orthovanadate (1 mM) added to the serosal side of native human colon caused a net rise in short circuit current, reflecting the stimulation of serosal-to-mucosal chloride movement. Epithelial cells responded similarly to the same concentration of the compound. The stimulatory effect of orthovanadate was enhanced by pretreatment with the tyrosine kinase inhibitor genistein, but only when orthovanadate was added to the basolateral chamber. In contrast, the synergistic interaction did not occur when epithelial cells were previously exposed to the cAMP agonist forskolin. **CONCLUSIONS:** We show that tyrosine phosphatases may be involved in the regulation of epithelial chloride transport, and that orthovanadate stimulates secretion in the human colon.

PMID: 11468855 [PubMed - indexed for MEDLINE]

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NEWS	32	AUG 15	PCTGEN: one FREE connect hour, per account, in September 2003
NEWS	33	AUG 15	RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS	34	AUG 15	TEMA: one FREE connect hour, per account, in September 2003

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NEWS 35 AUG 18 Data available for download as a PDF in RDISCLOSURE
NEWS 36 AUG 18 Simultaneous left and right truncation added to PASCAL
NEWS 37 AUG 18 FROSTI and KOSMET enhanced with Simultaneous Left and Right
Truncation
NEWS 38 AUG 18 Simultaneous left and right truncation added to ANABSTR

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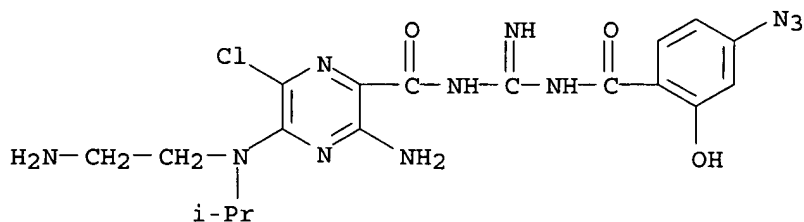
3 ANSWERS

L3 3 SEA SSS FUL L1

=> d 1-3 ide cbib pi

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L3 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2003 ACS on STN
RN 144176-48-7 REGISTRY
CN Pyrazinecarboxamide, 3-amino-5-[(2-aminoethyl)(1-methylethyl)amino]-N-[[4-azido-2-hydroxybenzoyl]amino]iminomethyl]-6-chloro- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C18 H22 Cl N11 O3
SR CA
LC STN Files: CA, CAPLUS, MEDLINE

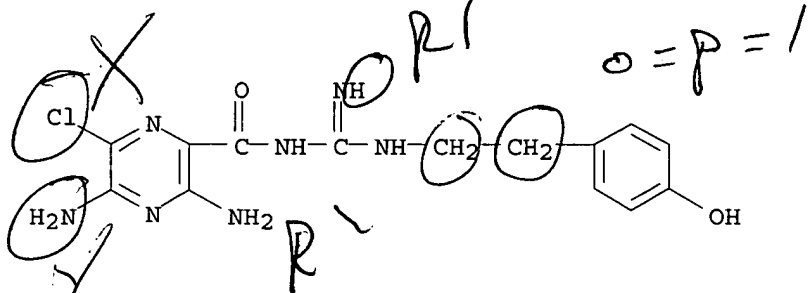


1 REFERENCES IN FILE CA (1937 TO DATE)
1 REFERENCES IN FILE CAPLUS (1937 TO DATE)

REFERENCE 1: 117:205669 Novel amiloride analog allosterically modulates the α 2-adrenergic receptor but does not inhibit sodium/hydrogen ion exchange. Wilson, Amy L.; Womble, Scott N.; Prakash, Chandra; Cragoe, E. J., Jr.; Blair, Ian A.; Limbird, Lee E. (Sch. Med., Vanderbilt Univ., Nashville, TN, 37332-6600, USA). Molecular Pharmacology, 42(2), 175-9 (English) 1992. CODEN: MOPMA3. ISSN: 0026-895X.

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L3 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2003 ACS on STN
RN 134788-24-2 REGISTRY
CN Pyrazinecarboxamide, 3,5-diamino-6-chloro-N-[[[2-(4-
hydroxyphenyl)ethyl]amino]iminomethyl]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C14 H16 Cl N7 O2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

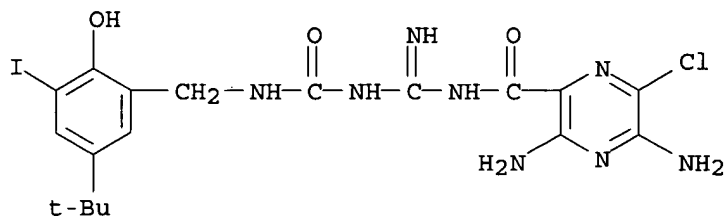
1 REFERENCES IN FILE CA (1937 TO DATE)
1 REFERENCES IN FILE CAPLUS (1937 TO DATE)

REFERENCE 1: 115:41425 Reversal of intrinsic multidrug resistance in Chinese hamster ovary cells by amiloride analogs. Epand, R. F.; Epand, R. M.; Gupta, R. S.; Cragoe, E. J., Jr. (Health Sci. Cent., McMaster Univ., Hamilton, ON, L8N 3Z5, Can.). British Journal of Cancer, 63(2), 247-51 (English) 1991. CODEN: BJCAAI. ISSN: 0007-0920.

1-11
14-17
18 21-23

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L3 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2003 ACS on STN
 RN 64077-96-9 REGISTRY
 CN Pyrazinecarboxamide, 3,5-diamino-6-chloro-N-[[[[[5-(1,1-dimethylethyl)-2-hydroxy-3-iodophenyl]methyl]amino]carbonyl]amino]iminomethyl]- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C18 H22 Cl I N8 O3
 LC STN Files: BEILSTEIN*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL
 (*File contains numerically searchable property data)



2 REFERENCES IN FILE CA (1937 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1937 TO DATE)

REFERENCE 1: 89:109585 Pyrazinecarboxamides. Cragoe, Edward J., Jr.; Woltersdorf, Otto W., Jr.; Habecker, Charles N. (Merck and Co., Inc., USA). U.S. US 4085211 19780418, 15 pp. (English). CODEN: USXXAM. APPLICATION: US 1976-722442 19760913.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4085211	A	19780418	US 1976-722442	19760913
	DK 7605314	A	19770616	DK 1976-5314	19761125
	SE 7613289	A	19770616	SE 1976-13289	19761126
	SE 431452	B	19840206		
	SE 431452	C	19840517		
	NL 7613276	A	19770617	NL 1976-13276	19761129
	AU 7620181	A1	19780608	AU 1976-20181	19761202
	AU 511429	B2	19800821		
	ES 454160	A1	19780301	ES 1976-454160	19761210
	FR 2335226	A1	19770715	FR 1976-37459	19761213
	FR 2335226	B1	19790309		
	GB 1527297	A	19781004	GB 1976-51940	19761213
	HU 175504	P	19800828	HU 1976-ME2034	19761213
	CH 630369	A	19820615	CH 1976-15660	19761213
	BE 849379	A1	19770614	BE 1976-173235	19761214
	ZA 7607431	A	19780726	ZA 1976-7431	19761214
	JP 52106877	A2	19770907	JP 1976-149889	19761215
	JP 62038350	B4	19870817		
	ES 465742	A1	19781001	ES 1978-465742	19780103

REFERENCE 2: 87:117906 Pyrazinecarboxamides. Cragoe, Edward Jethro, Jr.; Woltersdorf, Otto William, Jr.; Habecker, Charles Newcomer (Merck and Co., Inc., USA). Ger. Offen. DE 2656374 19770616, 71 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1976-2656374 19761213.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2656374	A1	19770616	DE 1976-2656374	19761213
	DE 2656374	C2	19890810		
	DK 7605314	A	19770616	DK 1976-5314	19761125
	SE 7613289	A	19770616	SE 1976-13289	19761126

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SE 431452	B	19840206		
SE 431452	C	19840517		
NL 7613276	A	19770617	NL 1976-13276	19761129
AU 7620181	A1	19780608	AU 1976-20181	19761202
AU 511429	B2	19800821		
ES 454160	A1	19780301	ES 1976-454160	19761210
FR 2335226	A1	19770715	FR 1976-37459	19761213
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HU 175504	P	19800828	HU 1976-ME2034	19761213
CH 630369	A	19820615	CH 1976-15660	19761213
BE 849379	A1	19770614	BE 1976-173235	19761214
ZA 7607431	A	19780726	ZA 1976-7431	19761214
JP 52106877	A2	19770907	JP 1976-149889	19761215
JP 62038350	B4	19870817		
ES 465742	A1	19781001	ES 1978-465742	19780103

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